

WHAT IS CLAIMED IS:

1 1. A method in a second mobile services switching
2 center for updating location information of a mobile station
3 when said mobile station has moved from an area controlled
4 by a first mobile services switching center to an area
5 controlled by a second mobile services switching center,
6 said method comprising:

7 adding said mobile station to a second mobile services
8 switching center database in response to said mobile station
9 registering with said second mobile services switching
10 center;

11 calculating a second mobile services switching center
12 checksum so as to include the said mobile station;

13 sending a home location register checksum to said
14 second mobile services switching center from a home location
15 register;

16 comparing said home location register checksum and said
17 second mobile services switching center checksum; and

18 sending a location registration signal from said second
19 mobile services switching center to said mobile station.

1 2. The method as recited in claim 1, wherein said
2 step of comparing said home location register checksum and
3 said second mobile services switching center checksum
4 further comprises the additional steps of:

5 sending an error signal from said second mobile
6 services switching center to said home location register
7 when said home location register checksum and said second
8 mobile services switching center checksum are not equal;

9 setting said second mobile services switching center
10 database equal to a previous correct database when said home
11 location register checksum and said second mobile services
12 switching center checksum are not equal;

13 sending all logged mobile stations that have been
14 erased from said home location register to said second
15 mobile services switching center after receiving said error
16 signal at said home location register from said second
17 mobile services switching center; and

18 subtracting each erased mobile station and adding each
19 newly registered mobile station identities to said previous
20 correct database;

21 appropriately adding and subtracting each of said
22 mobile station identities until said home location register
23 checksum and said second mobile services switching center
24 checksum are equal.

1 3. A method in an first mobile services switching
2 center for updating location information of a mobile
3 station, said method comprising:

4 sending a home location register checksum from a home
5 location register to said first mobile services switching
6 center;

7 subtracting said mobile station from a first mobile
8 services switching center database;

9 recalculating a first mobile services switching center
10 checksum to account for the subtracted mobile station;

11 sending an erasure acknowledge signal from said first
12 mobile services switching center to said home location
13 register; and

14 comparing said first mobile services switching center
15 checksum to said home location register checksum.

16 4. The method of claim 3, wherein said step of
17 comparing said first mobile services switching center
18 checksum to said home location register checksum further
19 comprises the additional steps of:

20 sending a negative acknowledge signal from said first
21 mobile services switching center to said home location
22 register when said home location register checksum and said
23 first mobile services switching center checksum are not
24 equal;

25 setting said first mobile services switching center
26 database equal to a previous correct database when said home
27 location register checksum and said first mobile services
28 switching center checksum are not equal;

14 sending all logged mobile stations that have been
15 erased from said home location register to said first mobile
16 services switching center after receiving said error signal
17 at said home location register from said first mobile
18 services switching center;

19 subtracting each erased mobile station and adding each
20 newly registered mobile station to said previous correct
21 database;

22 appropriately adding and subtracting each of said
23 mobile stations until said home location register checksum
24 and said first mobile services switching center checksum are
25 equal;

26 erasing the mobile stations that are resent in said
27 logged erasures; and

28 stopping said sending of a negative acknowledge signal
29 from said first mobile services switching center to said
30 home location register when said first mobile services
31 switching center checksum and said home location register
32 checksum are equal.

1 5. A system for updating location information of a
2 mobile station in a second mobile services switching center
3 when said mobile station moves from an area controlled by a
4 first mobile services switching center to an area controlled
5 by a second mobile services switching center, said system
6 comprising:

7 a first mobile services switching center for
8 communicating with said mobile station and comprising:
9 a compare checksum procedure; and
10 a means for calculating a checksum stored in said
11 first mobile services switching center;
12 a second mobile services switching center for
13 communicating with said mobile station and comprising:
14 a compare checksum procedure; and
15 a means for calculating a checksum stored in said
16 second mobile services switching center; and
17 a home location register for providing data to a
18 plurality of mobile services switching centers.

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